(d) whether Government have fixed any target to produce nuclear power by 2020; and

(e) if so, the measures proposed to be taken to achieve the target?

THE MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC ENERGY AND SPACE (SHRIMATI VASUNDHARA RAJE): (a) and (b) The process of reviewing the Atomic Energy Act, 1962 and suggesting amendments is currently underway.

(c) Does not arise.

(d) and (e) The Government is targeting to achieve 20,000 MWe by the year 2020. With a view to speed up capacity addition, 1000 MWe units have been introduced and construction of two of them has commenced.

**Use of advance fuels**

891. SHRI RAMA MUNI REDDY SIRIGIREDDY: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that the Department is thinking of using advance fuels like Nitride and Mettallic for the breader reactors;

(b) if so, the reasons for using advance fuels when the mixed oxide is a prevalent fuel world over; and

(c) the power generated through atomic power stations in the country during the last five years, year-wise?

THE MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC ENERGY AND SPACE (SHRIMATI VASUNDHARA RAJE): (a) Yes, Sir. The Bhabha Atomic Research Centre (BARC) and the Indira Gandhi Centre for Atomic Research (IGCAR) have programmes for development, fabrication and characterization of various types of standard and advanced fast reactor fuels including nitride and metallic fuels for Fast Breeder Reactors.

(b) The fuel being presently used for Fast Breeder Test Reactor (FBTR) at Kalpakkam is an advanced mixed carbide fuel. For the proposed 500 MWe Prototype Fast Breeder Reactor (PFBR) at Kalpakkam, the selected fuel is mixed oxide, as is the case for many fast reactors elsewhere in the world. However, the Department of Atomic Energy considers that the

research and development in advanced fuels with higher breeding ratio needs to be pursued to increase the rate of deployment of nuclear power in the country.

(c) The total electricity generated in Million Units (MUs) from the atomic power stations, plant-wise and year-wise, during the last five financial years is given as below:

| Stations \ Years | 1997-98 | 1998-99 | 1999-2000 | 2000-2001 | 2001-2002 |
|---|---|---|---|---|---|
| TAPS-1 & 2 | 2134 | 2294 | 2155 | 2408 | 2502 |
| RAPS-2 | # | 990 | 1405 | 1600 | 1498 |
| MAPS-1 & 2 | 1893 | 2188 | 2231 | 2515 | 2245 |
| NAPS-1 & 2 | 3450 | 2808 | 3131 | 3044 | 3335 |
| KAPS-1 & 2 | 2141 | 2894 | 3395 | 3494 | 3571 |
| Kaiga-1 & 2 | * | | 128 | 1900 | 2999 |
| RAPS-3 & 4 | ** | | 15 | 1735 | 3049 |
| RAPS-1 | 480 | 827 | 934 | 517 | 282 |

# RAPS-2 commenced operation in June 1998 after completion of En-masse Coolant Channel Replacement and upgradation jobs.

* Kaiga-1&2 commenced commercial operations on 16.11.2000 and 16.3.2000 respectively.

** RAPS-3&4 commenced commercial operations on 1.6.2000 and 23.12.2000 respectively.

**Development of ceramic matrix**

892. SHRI PARMESHWAR KUMAR AGARWALLA: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that Government are funding a project under which the work is being done by a nuclear scientist to develop a ceramic matrix that would contain and mobilize test of high level nuclear waste;

(b) if so, what is the present status of the project; and

(c) by when it is likely to be completed?